



## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF ENVIRONMENTAL QUALITY

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November 21, 2006

Ms. Pamela F. Faggert  
Vice-President and Chief Environmental Officer  
Dominion Virginia Power Company  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

RE: Federal Consistency Certification under Coastal Zone Management Act,  
Virginia Coastal Resources Management Program: North Anna Early  
Site Permit Application - DEQ-05-079F

Dear Ms. Faggert:

The Commonwealth of Virginia has completed its review of the consistency certification for the above referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal consistency certifications submitted pursuant to the Coastal Zone Management Act of 1972, as amended (CZMA). Pursuant to the CZMA, federal actions that can have foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent with the Virginia Coastal Resources Management Program (Virginia Coastal Program or VCP). The VCP is comprised of a network of enforceable policies administered by several agencies. Accordingly, DEQ, as the lead agency for the VCP, coordinated the review with agencies administering the enforceable and advisory policies.

The referenced project, which pertains to the site suitability for the proposed addition of new nuclear reactor units at the North Anna Power Station, is presently under review as an application submitted by Dominion Nuclear North Anna, LLC (Dominion) under the Early Site Permit Program administered by the U.S. Nuclear Regulatory Commission (NRC). Due to this federal licensing requirement, the project is also subject to federal consistency certification under the CZMA and to the environmental impact review process under the National Environmental Policy Act (NEPA).

We are also aware that a separate federal consistency certification under the CZMA will be required should Dominion later decide to apply to the NRC for a license for nuclear unit construction and operation pertaining to the referenced project. Dominion has acknowledged the requirement for this additional and separate federal consistency certification in its March 21, 2005, certification for the referenced project. The NRC also reconfirmed on a telephone conference call on November 9, 2006, that it, too, is aware of the separate certification requirement should

Dominion later decide to apply to the NRC for a license for nuclear unit construction and operation pertaining to the referenced project. Due to the relationship described in the NRC's Regulations (see 10 CFR Part 52 §52.39(a)(2)) between the finality of ESP determinations and subsequent findings required for issuance of a construction permit, operating license, or combined license by the NRC, throughout our review of the referenced project we sought to obtain an understanding of how the evaluations of the findings relating to the coastal effects required to be included in each separate consistency certification will be carried out.

The original federal consistency certification for the referenced project was submitted to DEQ on November 7, 2003. This original certification was withdrawn by Dominion on January 12, 2004. On March 21, 2005, Dominion resubmitted a federal consistency certification for the referenced project. The review process for the certification was first extended and then stayed by agreements between DEQ and Dominion pursuant to the Federal Consistency Regulations (see 15 CFR Part 930 §930.60(a)(3)(b)) because of the need to develop new information on a change in the cooling method design of the proposed third reactor unit. Our review of the federal consistency certification restarted on May 5, 2006, after the receipt of new information relative to the substantially different cooling method for proposed Unit 3.

Under the Federal Consistency Regulations, we must provide our concurrence with, or objection to, the federal consistency certification within six months of our receipt of the certification or at the earliest practicable time, whichever occurs first (see 15 CFR Part 930 §930.62(a)). The restarted review was scheduled to conclude no later than November 3, 2006. On October 27, 2006, DEQ and Dominion agreed to stay the six-month review period until no later than November 16, 2006. On November 16, 2006, DEQ and Dominion agreed to stay the end of the review period until no later than November 21, 2006.

The following state agencies, regional planning district commissions, and localities joined in this review. The starred (\*) agencies administer the enforceable policies under the Virginia Coastal Resources Management Program):

Department of Environmental Quality including:

Division of Water Resources\*

Northern Virginia Regional Office\*

Waste Division

Division of Air Programs Coordination\*

Office of Environmental Impact Review

Department of Game and Inland Fisheries\*

Department of Conservation and Recreation:

Division of Soil and Water Conservation\*

Division of Natural Heritage

Division of Planning and Recreation Resources

Division of Chesapeake Bay Local Assistance\*

Department of Health\*

Department of Transportation

Marine Resources Commission\*

Department of Historic Resources

Thomas Jefferson Planning District Commission

Spotsylvania County

Louisa County  
Hanover County

In addition, the following agencies, regional planning district commissions, and localities were invited to comment:

Department of Emergency Management  
Department of State Police  
RADCO Planning District Commission  
Rappahannock-Rapidan Planning District Commission  
Orange County  
Town of Mineral

## **PROJECT DESCRIPTION**

On September 25, 2003, Dominion Virginia Power Company/Dominion Nuclear North Anna, LLC (“applicant” or “Dominion”) applied to the U.S. Nuclear Regulatory Commission for an Early Site Permit related to the possible addition of two new nuclear power units at the North Anna Power Station site at Lake Anna. The proposed site for the new units is in Louisa County, Virginia, near the town of Mineral. The proposed site is within the existing North Anna Power Station site, which is on a peninsula on the southern shore of Lake Anna about 5 miles upstream from the North Anna Dam. Dominion is considering adding the new units (Units 3 and 4) to the two units that are already in place at the North Anna Power Station site. NRC’s Early Site Permit would, if issued, allow Dominion to “reserve” the site for as long as 20 years for up to two new nuclear power units, and to undertake certain site preparation and preliminary construction activities.

According to the federal consistency certification submitted in March 2005, the area that would be affected on a long-term basis as a result of permanent facilities on the ESP site is approximately 130 acres. The additional areas that would be disturbed on a short-term basis (for temporary facilities, laydown areas, etc.) total approximately 70 acres. Of these 200 acres, most are open areas used to stage equipment and materials for the existing Units 1 and 2 construction, operation and maintenance activities, and former Units 3 and 4 construction. Approximately 80 acres are wooded.

The site preparation and preliminary construction activities that would be authorized by the ESP, should the NRC later issue such a permit, would include the following:

- Site preparation for construction of the facility (including clearing, grading, construction of temporary access roads, and preparation of borrow areas).
- Installation of temporary construction support facilities (including warehouses, shops, concrete mixing plants, utilities, docking and unloading facilities, and construction support buildings).
- Excavation for facility structures.
- Construction of service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, switchyard interconnects, and sanitary sewage treatment facilities).

- Construction of cooling towers, intake and discharge structures, and circulating water lines as well as fire protection equipment, switchyard and other interconnections, and microwave towers.

If Dominion decides to proceed with any of the above site preparation activities, it would first be required to obtain any permits or authorizations necessary to conduct such site preparation activities. Also, if authorization is provided to Dominion to perform such site preparation activities, it will be subject to Dominion's obligation to perform such site redress as may be required by the Site Redress Plan approved by the NRC. The objective of the Site Redress Plan is to ensure that the site, should it not be fully developed for the intended purpose of new nuclear power generation, would be returned to an unattended, environmentally stable and aesthetically acceptable condition suitable for such non-nuclear use as is consistent with local zoning laws.

In the federal consistency certification for this project submitted for our review in March 2005, Dominion indicated that cooling water for proposed Unit 3 would be drawn from Lake Anna and that proposed Unit 4 would use dry cooling towers. As indicated above, Dominion has since developed a new method of cooling for the proposed Unit 3, which is a major aspect of the current federal consistency review. In addition, this revised cooling method is also currently the subject of the review of a Draft Environmental Impact Statement Supplement prepared by the NRC pursuant to NEPA. This new cooling method involves a closed-cycle, wet and dry cooling system that is intended to reduce the water demands associated with the once-through cooling proposed in the original certification. During periods of relative surplus (e.g. when lake levels are at or above 250 feet above mean sea level), the wet towers would be used. During dry periods (e.g. lake levels under 250 feet for 7 consecutive days or more), a dry cooling tower would be used, unless weather conditions dictate otherwise (the "maximum water conservation mode"). Proposed Unit 4 is to be air-cooled as contemplated in the March 2005 federal consistency certification. In addition, Dominion proposes to increase the maximum power level for each of the proposed new units from 4300 to 4500 Megawatts-thermal.

### **CONDITIONAL CONCURRENCE**

Dominion has certified that "the activities that would be permitted by NRC issuance of an ESP would comply with enforceable policies of, and will be conducted in a manner consistent with, the Commonwealth of Virginia's federally coastal zone management program."

Based on the comments submitted by the agencies administering the Enforceable Policies of the VCP, we concur that this proposal is consistent with the VCP **provided** that the following two conditions, discussed in more detail below, are satisfied:

- 1) that prior to construction and operation of one or both of the proposed new units, including any site preparation and preliminary construction activities, Dominion shall obtain all required permits and approvals not yet secured for the activities to be performed that are applicable to the VCP's Enforceable Policies and that Dominion also adheres to all the conditions contained therein; and,
- 2) that should the U.S. Nuclear Regulatory Commission later approve Dominion's application and ultimately issue an Early Site Permit for the referenced project, in accordance with 15

CFR Part 930 §930.4(a)(3), the NRC shall include in the application approval and in the ESP the additional permit condition submitted by Dominion on November 10, 2006, at the request of the Department of Game and Inland Fisheries, which pertains to the completion of an Instream Flow Incremental Methodology study.

The provisions contained in the first condition listed above are necessary because the framework of the VCP is such that the issuance of the state permits and approvals associated with the Enforceable Policies of this Program constitutes a project's consistency with those Policies. Once a state permit or approval is issued pursuant to one or more of the VCP's Enforceable Policies for a project, and for as long as the project remains in compliance with the provisions therein, the project is deemed to be consistent with the VCP. Based on the information submitted by Dominion in its federal consistency certification, we anticipate that permits or approvals pursuant to the following Enforceable Policies will be required for the referenced project prior to the time construction or operation of the project may commence: Fisheries Management, Wetlands Management, Point Source Pollution Control, and Non-Point Source Pollution Control. Further, because the Early Site Permit program does not require submission of a final design for the construction and operation of the proposed new nuclear reactor units, additional permits or approvals pertaining to the Enforceable Policies of the VCP may be required for the referenced project.

As stated above, we are aware that another federal consistency certification submission and review will be required should Dominion later decide to apply to the NRC for a combined construction and operating license. We anticipate that the need for any additional permits or approvals applicable to the VCP's Enforceable Policies for the referenced project will be more clearly determined during the review of this additional federal consistency certification. Furthermore, this conditional concurrence in no way guarantees that the Commonwealth's agencies will later issue any or all of the permits and approvals applicable to the VCP's Enforceable Policies that Dominion would be required to obtain should it later seek to construct and operate one or both of the proposed new nuclear reactor units associated with the referenced project.

The second condition listed above is necessary due to the provisions of the NRC's regulations pertaining to the extent of the information that must be included in an ESP application. During the course of our review of this project, we found that the information provided to us in the consistency certification and the NEPA documents was not sufficient in all instances for a complete evaluation of coastal effects as they pertain to both the activities that would be authorized under the ESP **and** the activities that would result if one or both of the new nuclear reactors units are constructed and placed into operation. Complete information about the coastal effects associated with the construction and operation of the new nuclear units described in the referenced project was unavailable to us concerning protection of aquatic and other resources in Lake Anna and downstream. Therefore, as stated above, due to the relationship described in the NRC's Regulations (see 10 CFR Part 52 §52.39(a)(2)) between the finality of ESP determinations and subsequent findings required for issuance of a construction permit, operating license, or combined license by the NRC, the VCP will not conclusively concur with Dominion's consistency certification for the referenced project at this time.

Instead, at the request of the Department of Game and Inland Fisheries (DGIF), the following condition has been developed in order to obtain the necessary information to address the

unresolved issues and to help determine the subsequent implementation of appropriate design and operational standards, conditions, and protocols for the referenced project:

Dominion Nuclear North Anna, LLC (Dominion) shall conduct a comprehensive In-stream Flow Incremental Methodology (IFIM) study, designed and monitored in cooperation and consultation with the Virginia Department of Game and Inland Fisheries (VDGIF) and the Virginia Department of Environmental Quality (VDEQ), to address potential impacts of the proposed Units 3 and 4 upon the fishes and other aquatic resources of Lake Anna and downstream waters. Development of the Scope of Work for the IFIM study shall begin in 2007, and the IFIM study shall be completed prior to issuance of a combined construction and operating license (COL) for this project. Dominion agrees to consult with VDGIF and VDEQ regarding analysis and interpretation of the results of that study, and to abide by surface water management, release, and in-stream flow conditions prescribed by VDGIF and VDEQ upon review of the completed IFIM study, and implemented through appropriate state or federal permits or licenses.

On November 10, 2006, Dominion notified the NRC that it was adding the language of the condition requested by the DGIF as a commitment in its ESP application and further requested that this commitment be included by the NRC as a permit condition in the Early Site Permit. (See enclosed letter from Eugene Grecheck to the NRC.) Further, the U. S. Nuclear Regulatory Commission in its November 14, 2006, letter to Dominion (see enclosed letter from Robert M. Weisman to Eugene S. Grecheck), has indicated that the NRC “agrees to include this proposed condition as an enforceable permit condition, should the agency approve the North Anna ESP application and ultimately issue a permit.”

We are requiring that this condition be satisfied to ensure consistency of the referenced project with the Fisheries Management, Point Source Control, and Wetlands Management Enforceable Policies of the VCP. The comprehensive In-stream Flow Incremental Methodology study we have required in this conditional concurrence will provide the needed information for the VCP to undertake a more complete evaluation of the coastal effects of the entire range of activities associated with the proposed project. Additionally, according to the Virginia Department of Conservation and Recreation (DCR), the North Anna River is a spectacularly scenic and remote canoeing river with excellent fishing. In its earlier comments on the Draft Environmental Impact Statement for the referenced project, DCR recommended that a minimum in-stream flow recreation study be conducted to determine what the discharge rates should be from Lake Anna to support recreational boating on the North Anna River. The IFIM Study discussed above will also need to address the recreational issues described in DCR’s comments. (Please also see “Advisory Policies” section below for additional comments from DCR about this Advisory Policy of the VCP.)

Moreover, because an ESP (if such a permit is later approved and issued by the NRC) would not authorize the construction and operation of the new nuclear reactor units proposed in the referenced project, and because a separate federal consistency certification would be required if Dominion later applies to the NRC for a combined construction and operating license for one or both of the proposed new nuclear reactor units, this conditional concurrence shall not be construed by any party involved as an assurance that the Commonwealth will later find all activities associated with the proposed project consistent with Enforceable Policies of the VCP. Likewise, this conditional concurrence in no way guarantees that the Commonwealth’s agencies will later issue any or all of the permits and approvals applicable to the VCP’s Enforceable Policies that Dominion

would be required to obtain should it later seek to construct and operate one or both of the proposed new nuclear reactor units associated with the referenced project.

In accordance with 15 CFR Part 930, §930.4, this conditional concurrence is based on Dominion complying with all conditions as stipulated above and the U.S. Nuclear Regulatory Commission completing the required action pursuant to §930.4(a)(3). If the requirements of paragraphs (a)(1) through (3) of 15 CFR Part 930, §930.4 are not met by Dominion or the NRC, then all parties shall treat this conditional concurrence as an objection pursuant to 15 CFR Part 930, §930.4(a)(1) and (b), and 15 CFR Part 930, §930.63. If this conditional concurrence later becomes an objection, in accordance with 15 CFR Part 930, §930.4(a)(1) and pursuant to 15 CFR Part 930, §930.63(e), DEQ will notify Dominion of the opportunity to appeal the VCP's objection to the Secretary of Commerce within 30 days after receipt of the VCP's concurrence/objection or 30 days after receiving notice from the NRC that Dominion's ESP application will not be approved as amended by the VCP's conditions.

If this conditional concurrence is later treated as an objection, in accordance with 15 CFR Part 930, §930.63 (b), (c), and (d), the Commonwealth would likely propose the alternative measures described in Appendix 1, which if adopted by Dominion, may permit the proposed project to be conducted in a manner consistent with the Enforceable Policies of the VCP.

Should this conditional concurrence become an objection, pursuant to 15 CFR Part 930, Subpart H, Dominion may request that the Secretary of Commerce override the objection (see 15 CFR Part 930, §930.63(e)). If this conditional concurrence is later treated as an objection, the VCP's notification of objection shall include a statement to the following effect:

Pursuant to 15 CFR Part 930, subpart H, and within 30 days from receipt of this letter, you may request that the Secretary of Commerce override this objection. In order to grant an override request, the Secretary must find that the activity is consistent with the objectives or purposes of the Coastal Zone Management Act, or is necessary in the interest of national security. A copy of the request and supporting information must be sent to the Virginia Coastal Program/DEQ and the U.S. Nuclear Regulatory Commission. The Secretary may collect fees from you for administering and processing your request.

## **REMEDIAL ACTION**

In accordance with 15 CFR Part 930, § 930.65, should an ESP later be approved and issued by the NRC for the referenced project, DEQ may notify the NRC if:

- 1) the VCP later maintains the referenced project is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent with the management program; or
- 2) the VCP later maintains the referenced project is being conducted or is having coastal effects substantially different than originally described and, as a result, the activity affects any coastal use or resource in a manner inconsistent with the management program.

Pursuant to 15 CFR Part 930, § 930.65, DEQ may request appropriate remedial action. Such remedial actions shall be linked to coastal effects substantially different than originally described. If after 30 days, the VCP still maintains that Dominion is failing to comply substantially with the management program, the Governor or DEQ may file a written objection with the Director (NOAA). If the Director finds that the Dominion is conducting an activity that is substantially different from the approved activity, Dominion shall, subject to the 15-day review provided pursuant to 15 CFR Part 930, § 930.65(e), submit an amended or new consistency certification and supporting information to the Federal agency and to the State agency, or comply with the originally approved certification.

### **SUPPLEMENTAL COORDINATION**

In accordance with 15 CFR Part 930, §930.66, federally permitted activities previously determined to be consistent with the VCP, but which have not yet begun, require further coordination by the applicant if the proposed activity will affect any coastal use or resource in a substantially different way than originally described. Substantially different coastal effects are reasonably foreseeable if the applicant makes substantial changes in the proposed activity that are relevant to VCP Enforceable Policies, or if there are significant new circumstances or information relevant to the proposed activity and the effects of that activity on any coastal use or resource. In the event that the referenced project affects any coastal use or resource in a substantially different way than originally described, Dominion must notify DEQ through a supplemental consistency certification.

### **PUBLIC PARTICIPATION**

In accordance with 15 CFR §930.61, DEQ invited public participation to assist the VCP in its review of the federal consistency certification for the referenced project. DEQ published a notice of the federal consistency review for the referenced project on its web site, during the first review, from April 15 through May 2, 2005. No public comments were received at that time.

For the restarted review in 2006, DEQ published a notice of the review on its web site from May 15 through June 16, 2006. On June 15, DEQ also published notice of an extended review period lasting until September 8. This notice also announced that DEQ would hold a public hearing on August 16. This notice was published on DEQ's web site and in three newspapers as follows:

Web site ( <a href="http://www.deq.virginia.gov">http://www.deq.virginia.gov</a> ):	starting June 15
Richmond <u>Times-Dispatch</u> :	July 2
Lake Anna <u>Observer</u> :	July 15
Fredericksburg <u>Free Lance-Star</u> :	July 30

During the public review process, including the public hearing, we received comments from more than 500 individuals and organizations concerning this review.

In summary, the majority of the public comments received state that the proposed project currently under review is inconsistent with one or more of the following Enforceable Policies of the VCP: Fisheries Management, Wetlands Management, and Point Source Pollution Control.



Due to the volume of information provided by the public, the need for a careful analysis thereof, and in order to facilitate a timely review by agencies, DEQ compiled the major comments which represented the views of numerous individuals and several organizations and asked agencies to analyze the issues raised by the public. We included copies of detailed public comments and the transcript of the public hearing for reviewers' use in addressing the issues raised. A summary of the issues raised during the public comment period and any additional responses provided by agencies administering the applicable Enforceable and Advisory policies of the VCP are enclosed as Appendix 2.

It is important to note that many of the topics and issues identified in the correspondence and testimony submitted during the public comment period were either not applicable to the Enforceable Policies of the VCP as they specifically relate to the review of the federal consistency certification for the referenced project, or they were unrelated to the provisions of the CZMA. For example, we received extensive comments pertaining to the regulatory oversight of the existing facilities and operations at the North Anna Power Station rather than to the proposed new units described in the ESP application for the referenced project, particularly with regard to water temperatures. Also, a number of other comments submitted questioned whether DEQ's regulatory programs for water quality protection were appropriately approved and are being administered in accordance with the federal Clean Water Act (33 U.S.C. § 1370) relative to the existing facilities and operation of the North Anna Power Station. While these are important issues and DEQ has already referred these comments and questions to both the Virginia Attorney General's Office and to Region III of the U.S. Environmental Protection Agency, these matters are not germane to the CZMA.

After further review of the topics and issues raised during the comment period, none of the agencies that administer the Enforceable Policies of the VCP objected to Dominion's consistency certification for the project.

### **APPLICABLE ENFORCEABLE POLICIES OF THE VCP**

The discussions which follow present state agencies' comments and conclusions with regard to each of the applicable Enforceable Policies of the VCP, along with conditions and stipulations stemming from the Enforceable Policies, with regard to the referenced project.

#### **1. Fisheries Management Enforceable Policy**

The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (Code of Virginia § 28.2-200 thru 28.2-713) and the Department of Game and Inland Fisheries (DGIF). (See *Code of Virginia* § 29.1-100 thru 29.1-570).

The Department of Game and Inland Fisheries, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over those resources, including state or federally listed endangered or threatened species, but excluding listed insects. DGIF is a consulting agency under the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through the Virginia Department of Environmental Quality, the Virginia

Marine Resources Commission, the Virginia Department of Transportation, the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission, and other state or federal agencies. The role of DGIF in these procedures is to determine likely impacts upon fish and wildlife resources and habitats, and to recommend appropriate measures to avoid, minimize, or compensate for those impacts.

Prior to requesting that the condition previously described above will need to be added to Dominion's application for the referenced project and that this condition must be included as an enforceable condition in the Early Site Permit (should the NRC ultimately decide to issue a permit for this project), DGIF submitted extensive comments and recommendations. These comments and recommendations are included in Appendix 1. If the conditional concurrence for the referenced project later becomes an objection pursuant to 15 CFR Part 930, §930.4(a)(1) and (b), and 15 CFR Part 930, §930.63, DGIF's comments and recommendations pertaining to the Fisheries Management Enforceable Policy, as well as any other comments and recommendations included in Appendix 1, would likely be proposed by the VCP as alternative measures, which if adopted by Dominion, may permit the proposed project to be conducted in a manner consistent with the Enforceable Policies of the VCP. Should the conditional concurrence for the referenced project later become an objection, the VCP may also describe additional alternative measures than those listed in Appendix 1. (Please also see Appendix 2 "Summary of Public Comments Received" for additional comments and responses provided by DEQ regarding this Enforceable Policy.) Questions about DGIF's comments and recommendations may be directed to Andy Zadnik, telephone (804) 367-2733.

## **2. Point Source Pollution Control Enforceable Policy**

The point source program is administered by the State Water Control Board pursuant to § 62.1-44.15 of the *Code of Virginia*. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System permit program established pursuant to Section 402 of the federal Clean Water Act and is administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.

DEQ's Division of Water Resources stated that its concerns centered on the difference between the Division's recommendations on when to use air cooling for Unit 3 and the proposed cooling regime in the revised Early Site Permit application submitted by Dominion. Dominion proposed in its revised application to operate Unit 3 in its water conservation mode (air cooling) whenever the water level in Lake Anna falls below 250 feet above mean sea level ("250 feet msl"). The Division, along with the Department of Game and Inland Fisheries, recommended that in addition to this approach, the water conservation mode be employed for Unit 3 whenever stream flows in the North Anna River immediately below the dam were below certain target seasonal flows, in order to reduce withdrawals required for operation of Unit 3 and to mitigate impacts to stream flows during these periods.

The Division's original concerns have been largely addressed by the changes made by Dominion for cooling Units 3 and 4, and by discussions between program offices in DEQ. The proposal to operate air cooling (maximum water conservation mode) only when the lake level drops below 250 feet msl means that the air cooling would be implemented during times when it is least effective, i.e., during summer through late fall.

Notwithstanding the Division's concerns about the effectiveness of this maximum water conservation mode during summer to late fall, the maximum water conservation mode is warranted whenever the lake falls below a full condition. Water savings will accomplish the following:

- Reduce the ultimate lake drawdown;
- Benefit lakefront property owners;
- Shorten the time between more normal releases, and
- Reduce the risk of shutdown of the plant.

DEQ's Division of Water Resources agrees that Unit 3 should be operated in this fashion at a minimum (see enclosed DEQ memos, Hassell to Ellis, dated July 19, 2006, and Hassell to Ellis, dated October 19, 2006). However, it may not be realistic to require this operating scheme in the context of the federal consistency review, according to the Division. A future VPDES and/or Virginia Water Protection Permit (VWPP) will, according to the Division of Water Resources, include conditions reflective of the Division's July 19 recommendations.

During the review of the referenced project, the Division of Water Resources was concerned by the uncertainty that a new or modified VWPP would be required for water withdrawal impacts associated with the operation of one or both of the new units proposed in the referenced project. The VWPP is the primary controlling mechanism for regulation of impacts due to surface water withdrawals. However, the VPDES permit may also be used for this purpose. The current VPDES permit (#VA 0052541) for the North Anna Power Station contains minimum flow conditions and would need to be modified if Unit 3 were built. DEQ can require Dominion to abide by combined recommendations of the Division of Water Resources and the Department of Game and Inland Fisheries through a lawfully issued VPDES permit.

The DEQ Division of Water Resources also considered the following topics during its review of the referenced project:

- **Cumulative Impacts** According to DEQ-DWR, the use of air cooling only after lake levels begin to decline has been changed to more reliance on air cooling. This will reduce the time that the lake level will be down more than 2 feet (i.e., at 248 feet msl) from 11% of the time in an earlier proposal to 7% of the time with the present proposed configuration. By operating the third unit to take maximum advantage of air cooling, Dominion can minimize adverse impacts of the third unit on middle-range flows to an acceptable level.
- **Foreclosure of Development of Public Water Supplies in the Region** As discussed further in enclosed comments and in the Appendix 2 "Summary of Public Comments" the following is the status of water supply efforts in neighboring localities:

Locality	Efforts	Impact on Lake Anna/N. Anna River or from Project
Caroline County	Pursuing tidal intake from Rappahannock River	No impact on flows in York River basin

Hanover County	Purchases from Richmond, water skimmed from high river flows, use of quarry	No indication
Town of Orange	Water supply reservoir completed, water from Rapidan River	Net gain to region from inter-basin transfer
Spotsylvania County	Spotsylvania did not pursue Lake Anna water	No indication
Louisa County	Considering purchase from Fluvanna County, which has water withdrawal permit for water from James River; considering existing reservoir	No effect from Unit 3

- Raising Lake Level** DEQ's Division of Water Resources states that raising the lake level 6 to 9 inches is not under consideration. No decision has been made with regard to a 3-inch increase recommended by DGIF; this would allow an additional 27 cubic feet per second (cfs) to be released into the North Anna River for 60 days each year. This proposal would require VPDES approval in the lake level contingency plan or else approval under a Virginia Water Protection Permit.
- Blowdown Discharges from Unit 3** Concerns have been raised that the blowdown discharges from proposed Unit 3 will add heat and chemicals to the Lake and may affect its water quality. According to DEQ's Northern Virginia Regional Office, the existing VPDES permit (#VA0052451), which applies to Units 1 and 2, would need to be modified to address the cooling tower blowdown discharges attributable to Unit 3. Effluent guidelines specified in federal regulations (40 CFR Part 423) would be used in the permit action, which would also accord with water quality standards. Any added heat would be analyzed to determine whether a re-evaluation of the existing section 316(a) variance applicable to the North Anna Power Station is warranted. Similarly, the VPDES permit action would analyze the use of chemicals to ensure that numeric criteria of state water quality standards are met.

The Division of Water Resources is confident that with the presently proposed infrastructure for Units 2 (existing) and 3 (proposed), DEQ has the authority under its permitting programs to protect in-stream beneficial uses of the North Anna River, even in light of cumulative impacts of the new project. Therefore, the Division of Water Resources and the DEQ Northern Regional Office did not object to the VCP's conditional concurrence with the federal consistency certification for the referenced project. (Please also see Appendix 2 "Summary of Public Comments Received" for additional comments and responses provided by DEQ regarding this Enforceable Policy). Questions about the VPDES permit should be directed to DEQ's Northern Virginia Regional Office (Tom Faha, Water Permit Manager, telephone (703) 583-3846) or DEQ's Division of Water Resources (Joe Hassell, telephone (804) 698-4072).

### 3. Wetlands Management Enforceable Policy

The purpose of the wetlands management program is to preserve tidal wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation. The tidal wetlands program is administered by the Virginia Marine Resources Commission (*Code of Virginia* § 28.2-1301 thru § 28.2-1320).

The Virginia Water Protection Permit program administered by the Department of Environmental Quality includes protection of wetlands, both tidal and non-tidal. This program is authorized by Code of Virginia § 62.1-44.15.5 and the Water Quality Certification requirements of Section 401 of the Clean Water Act of 1972. Due to the relationship of the VWPP Program's surface water withdraw authorities and the nature of the provisions of the VPDES permit for the referenced project, the comments pertaining to water withdrawal matters are included in the Point Source Pollution Control Enforceable Policy discussion above. (Please also see Appendix 2 "Summary of Public Comments Received" for additional comments and responses provided by DEQ regarding this Enforceable Policy). Questions about VWPP should be directed to DEQ's Division of Water Resources (Joe Hassell, telephone (804) 698-4072).

#### **4. Non-Point Source Pollution Control Enforceable Policy**

This enforceable policy is administered by the Department of Conservation and Recreation, Division of Soil and Water Conservation. According to the Department of Conservation and Recreation (DCR), any land disturbance exceeding an area of 2,500 square feet must comply with the Virginia Erosion and Sediment Control Law, which requires that the applicant prepare and submit an Erosion and Sediment Control Plan to DCR's James River Watershed Office. Questions should be addressed to that Office (James McCutcheon, telephone (804) 225-2992).

#### **5. Coastal Lands Management Enforceable Policy**

This program is a state-local cooperative program administered by the Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act (see § 10.1-2100 thru § 10.1-2114 *Code of Virginia* and Chesapeake Bay Preservation Area Designation and Management Regulations. (See 9 VAC 10-20-10 *et seq. Virginia Administrative Code*.)

According to the Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance, the project area, which is in Louisa County, is not within a Chesapeake Bay Preservation Act jurisdiction (Baird/Ellis, 10/30/06). Questions about Coastal Lands Management matters should be DCR's Division of Chesapeake Bay Local Assistance (Alice Baird, telephone (804) 225-2307).

#### **6. Subaqueous Lands Management Enforceable Policy**

The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality, Water Division. The program is administered by the Virginia Marine Resources Commission (VMRC) (§ 28.2-1200 thru 28.2-1213 of the *Code of Virginia*). Since Lake Anna is a man-made impoundment of the North Anna River, the Commission has jurisdiction over encroachments over the historic, flooded stream channel. Questions about Subaqueous Lands should be directed to VMRC (Jeff Madden, telephone (757) 247-2200).

## 7. Air Pollution Control Enforceable Policy of the VCP

The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (§ 10-1.1300 of the *Code of Virginia*).

**Permitting Requirements** Heating and other fuel-burning facilities may require permits from DEQ. Questions on these requirements may be addressed to DEQ's Northern Regional Office.

**Fugitive Dust Control** During construction activities, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the Regulations for the Control and Abatement of Air Pollution. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

**Open Burning Requirements** In addition, if project activities include the burning of any material, this activity must meet the requirements of the Regulations for open burning (9 VAC 5-40-5600 *et seq.*), and it may require a permit (see item 6(a), above). The Regulations provide for, but do not require, the local adoption of a model ordinance concerning open burning. Dominion should contact appropriate local officials to determine what local requirements, if any, exist. The model ordinance includes, but is not limited to, the following provisions:

- All reasonable effort shall be made to minimize the amount of material burned, with the number and size of the debris piles;
- The material to be burned shall consist of brush, stumps and similar debris waste and clean-burning demolition material;
- The burning shall be at least 500 feet from any occupied building unless the occupants have given prior permission, other than a building located on the property on which the burning is conducted;
- The burning shall be conducted at the greatest distance practicable from highways and air fields;
- The burning shall be attended at all times and conducted to ensure the best possible combustion with a minimum of smoke being produced;
- The burning shall not be allowed to smolder beyond the minimum period of time necessary for the destruction of the materials; and
- The burning shall be conducted only when the prevailing winds are away from any city, town or built-up area.

DEQ's Air Division did not state any objections to the referenced project. For questions about Air Pollution Control contact DEQ's Northern Regional Office (Terry Darton, telephone (703) 583-3845).

### **ADVISORY POLICIES OF THE VCP**

The discussions which follow present state agency comments and recommendations with regard to each of the advisory policies of the VCP that are applicable to the referenced project, issues raised by the public pertaining to these advisory policies, and responses to these issues from agencies with jurisdiction on the appropriate policy. Although not required for the purposes of consistency, in accordance with 15 CFR § 930.39(c), Dominion and the NRC should consider the advisory policies (recommendations) of the Virginia Coastal Resources Management Program as they pertain to the referenced project.

#### **Coastal Natural Resource Areas**

These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:

- a) Wetlands
- b) Aquatic Spawning, Nursery, and Feeding Grounds
- c) Coastal Primary Sand Dunes
- d) Barrier Islands
- e) Significant Wildlife Habitat Areas
- f) Public Recreation Areas
- g) Sand and Gravel Resources
- h) Underwater Historic Sites

#### **Wildlife Habitat**

The Department of Game and Inland Fisheries (DGIF) has notified Dominion and the Nuclear Regulatory Commission of the existence of at least two new bald eagle nests at Lake Anna. DGIF understands that NRC may consult informally with the U.S. Fish and Wildlife Service regarding these nests. DGIF supports this consultation and also recommends that Dominion contact DGIF to address potential adverse impacts upon bald eagles attributable to this project (Jeff Cooper, biologist, telephone (540) 899-4169).

#### **Public Recreation Areas**

We received comments from the Virginia Department of Conservation and Recreation (DCR) regarding Public Recreation Areas. In its earlier comments on the Draft Environmental Impact Statement for the referenced project, DCR recommended that a minimum in-stream flow recreation study be conducted to determine what the discharge rates should be from Lake Anna to

support recreational boating on the North Anna River. DCR stated that an air-cooled Unit 3 would have no impacts upon water-related recreation.

According to DCR, Lake Anna supports a significant amount of recreational activity from people getting to the lake from public and private lands. Lake Anna State Park is a particular example of the public investment in facilitating public use of the Lake. DCR stated that the proposed new generating facilities may deplete the water available for other uses and that impacts of those facilities upon the lake temperature, particularly in the summer months, can affect the downstream fishery. DCR further commented that the North Anna River is a spectacularly scenic and remote canoeing river with excellent fishing. Between State Route 601 and U.S. Route 301, the North Anna River is heavily used because it presents some of the most beautiful and remote paddling opportunities in the mid-Atlantic region. During periods of low rainfall, releases from the Lake Anna Dam are less than what is needed to support recreational boating on the River. DCR further recommended that discharge rates from the Lake Anna Dam should be adequate to meet minimum in-stream flows needed for recreational boating from State Route 601 to U.S. Route 301.

The scope of the IFIM Study discussed above will also need to address the recreational issues described in DCR's comments.

### **Comments Received from State Agencies Regarding Other Issues**

#### **1. Health Impacts**

During the initial review of the federal consistency certification in 2005, DEQ-OEIR requested the Virginia Department of Health (VDH) to comment on two concerns raised by citizens relative to potential health effects of new nuclear power reactor units: the direct effects of heat from immersion in ambient waters by recreational bathers, and the potential adverse effects of any changes in concentrations of micro-organisms in those waters. VDH provided analysis and comments in a letter dated September 15, 2005 (enclosed).

**Risks to Health from Heat** According to VDH, if a person is exposed to hot water that is 113 degrees Fahrenheit (F.) or higher, there is a risk of burn injury, correlated with the water temperature and the length of time one is submerged. Submersion can be expected to result in second-degree burns (no irreversible damage) after two hours of exposure. Immersion in water at temperatures above normal body temperature (98.6 degrees F.) can be expected to affect body temperature, sweating, and heart rate. Persons with heart disease, young children, pregnant women, and the elderly are believed to be particularly vulnerable, as are people with spinal cord or peripheral nerve disorders.

**Microbiological Risks to Health** According to VDH, a species of amoeba (*Naegleria fowleri*) that inhabits freshwater ponds, lakes, rivers, minimally chlorinated pools, and hot springs can cause a disease called primary amoebic meningoencephalitis (PAM), which is a rare but nearly always fatal infection. This infection occurs when water containing these amoebae incidentally enters the nose during swimming or other aquatic activity, followed by migration to the brain through the olfactory nerve. Symptoms occur one day to two weeks after exposure; death typically occurs 3 to 7 days after symptoms occur. According to death certificate data cited by VDH, there have been 35 deaths nationally, including one in Virginia, attributable to PAM during the period 1979 through 2002.



**Recommendations** According to VDH, vulnerable classes of people (see item 1(a), above) should avoid prolonged immersion in waters warmer than normal body temperature. All people should avoid water bodies with temperatures over 104 degrees F. To reduce the risk of PAM, swimmers should avoid waters when surface water temperatures are greater than or equal to 95 degrees F. They should also avoid shallow, stagnant areas, minimize forceful entry of water up nasal passages during jumping or diving (such as by nose plugs or holding the nose), and avoid digging in sediment while under water. Further questions may be directed to the Department of Health (Khizar Wasti, telephone (804) 864-8182).

## **2. Historic Structures and Archaeological Resources**

In earlier comments (June 8, 2006, prior to issuance of the Supplement to the Draft EIS, and November 3, 2005), the Department of Historic Resources (DHR) indicated that there had not been sufficient identification of historic properties that may be affected by the construction of proposed Units 3 and 4. If such identification could not be completed by the time of a Final Environmental Impact Statement, then a Programmatic Agreement would be necessary.

Since writing those earlier comments, DHR has received and reviewed an archaeological survey report, entitled *Archaeological Survey Dominion Early Site Permit Project North Anna Power Station, Louisa County, Virginia*, prepared by the Louis Berger Group, Inc., for Dominion Nuclear North Anna, LLC. (DHR File No. 2000-1210.)

**Review of the Survey Report** According to DHR, the survey report meets the Secretary of the Interior's *Standards and Guidelines for the Documentation of Archaeological Sites* (Federal Register, Volume 48, pages 44734-44742) and also the DHR *Survey Guidelines* (revised 2001).

The survey builds on two previous site assessments conducted on the property in question, and employs a probability model based on the physiographic situation and field inspection. The Department of Historic Resources states its finding that the model is properly developed and executed, and represents a reasonable, good-faith effort to identify archaeological resources that may be affected by the proposed project. The Area of Potential Effect (APE) contains two known historic-era cemeteries recorded as sites 44LS221 and 44LS222. No additional archaeological resources were identified within the APE.

**Recommendations** The survey consultant recommends that the two cemeteries are potentially eligible for listing on the National Register of Historic Places, and that further archaeological evaluation would be necessary to determine eligibility. The Department of Historic Resources concurs with these recommendations.

DHR further recommends that the two cemetery sites be avoided in project development. If they are avoided, the project would likely have no negative effect on the archaeological sites.

**Conclusions** According to DHR, the execution of the survey and submission of the survey report satisfies the identification responsibilities of the Nuclear Regulatory Commission, provided that the cemeteries can be avoided. These responsibilities stem from Title 36, Code of Federal Regulations, Part 800. Satisfaction of these responsibilities pre-empts the necessity of a Programmatic Agreement.

The Department of Historic Resources looks forward to receiving the Nuclear Regulatory Commission's determination of effect for this project. Questions may be directed to DHR (Roger Kirchen, telephone (804) 367-2323, ext. 153).

### **3. Road and Traffic Impacts**

Any Virginia Department of Transportation VDOT land use requirements, lane closures, traffic control or work zone safety issues should be closely coordinated with the affected cities/counties and VDOT's Louisa Residency (telephone (540) 967-3710).

Also, VDOT provided responses to comments from citizens pertaining to road and transportation issues. In its responses, VDOT indicated that it would work with Dominion to ensure that the roads in the vicinity of the North Anna Power Station are maintained and that necessary improvements are in place prior to any major activities at the project site. VDOT has requested a traffic impact analysis from Dominion; this would compare the future background traffic in the area with future traffic, including construction traffic ("total traffic"), and would identify areas of impacts. The impacts -- some of which would be temporary, from construction, and some of which would be permanent -- are the responsibility of Dominion. The traffic impact analysis should also provide mitigation measures to reduce the impacts. (Please also see Appendix 2 "Summary of Public Comments Received" for additional comments and responses provided by VDOT regarding road and traffic Impacts).

## **OTHER MATTERS RELATED TO THIS CONSISTENCY CERTIFICATION REVIEW**

### **1. Regional Government Comments**

The Thomas Jefferson Planning District Commission responded to discussion, in the NRC's Supplement to the Draft EIS, of potential need to modify water releases at the North Anna Dam to maximize shad habitat and preserve downstream river resources. The Commission noted that DEQ would be responsible for determining modification to water releases and recommended appropriate action by DEQ in this regard.

### **2. Local Government Comments**

Spotsylvania County reiterated earlier comments, provided in the review of the Draft EIS. The County adopted a resolution on February 8, 2005, which recited a number of concerns about the Early Site Permit process, chiefly the demands of the proposed project for Lake Anna water in light of the rapidly growing population in the Lake region and the impacts on area residents and visitors of lowering the water level of the Lake. The County objected to the ESP process.

Louisa County indicated, on behalf of its Board of Supervisors, that the County had raised several questions with Dominion and was satisfied with the answers. Louisa County supports issuance of the Early Site Permit by the Nuclear Regulatory Commission.

Hanover County provided copies of earlier comments with its September 8, 2006, (enclosed) comment letter on the current federal consistency certification review. Hanover County submitted the following comments:

**Background: County Relationship to Rivers** Hanover County is immediately downstream from the North Anna Dam, and relies on the North Anna River as the water source for its Doswell Water Treatment Plant, as well as the receiving water for discharges from the County's Doswell Wastewater Treatment Plant. The County also relies, further downstream, on the Pamunkey River, which receives a significant part of its flow from the North Anna River. The Pamunkey River is the receiving water for discharges from Hanover County's Courthouse and Totopotomoy Wastewater Treatment Plants. In addition, the North Anna and Pamunkey Rivers are important fisheries habitats and also recreational amenities for County residents. Several industries in the County also rely on the North Anna River.

**Effects** The County states that, according to the data provided by NRC and Dominion, low-flow conditions in the North Anna River will be exacerbated by the installation of the proposed new reactors. Although the proposed new cooling method would reduce the downstream impact of these new units, there would be an adverse impact on flows. Hanover County states that the current minimum releases are below those recommended by the State's natural resource agencies, and the County is concerned about the reduction in flows, which will affect County industries, water and wastewater treatment plants, and the environment.

**Earlier Correspondence to NRC, January 7, 2004** In response to the Nuclear Regulatory Commission's notice of intent to prepare a Draft Environmental Impact Statement (Federal Register, Volume 68, No. 226, dated November 24, 2003, pages 65961-65962), Hanover County wrote to NRC, stating its background information above. The County reviewed state legislative action mandating reduced minimum releases of 20 cfs in the event of drought, saying that downstream users have designed their water intake and wastewater discharge systems around a 40-cfs low-flow condition. The County recommended inclusion of its prior comments (below) in the scope of an environmental impact statement.

**Earlier Correspondence to DEQ's Valley Regional Office, November 6 and 21, 2000** DEQ's Valley Regional Office held a public hearing on November 6, 2000, according to the County's correspondence, regarding its draft VPDES permit for Dominion. The draft permit included reference to a Lake Level Contingency Plan, which the County supported (November 6 letter, enclosed). The County's comments referred to earlier correspondence by the Lake Anna Civic Association (LACA), and its requested changes to the Lake Level Contingency Plan (LLCP). Hanover County supported a 248 foot msl lake level, stating that LACA's preference for a normal level of 250 foot msl (triggering reduced flows below 40 cfs in anticipation of a drought) was not realistic because the 40 cfs minimum flow has been mandated by regulation since 1968, predating the improvements around the Lake. It was the County's view at the time that an "action level" higher than 248 feet msl would require a reduction in flows below 40 cfs on a "regular basis" and would be inconsistent with legislative language that reductions would be required due to "drought conditions." The County's water intake pumps require the seven-year, ten-day low flow ("7Q10" flow, or 42 cfs) in order to function properly. Similarly, the County's permitted wastewater discharge depends on the 7Q10 flow. Accordingly, the County stated its opposition to any effort to reduce discharge levels below 40 cfs.

The County's November 21, 2000, letter urged retention of the 248-foot msl level at which discharge rates would be reduced. The County indicated that while a reduction to 20 cfs in drought periods is a 50% decrease in minimum downstream flow, which is inequitable, it is relatively insignificant in maintaining lake levels because of other factors such as evaporation rates (pages 2-3

of letter). The County reiterated its support of the draft permit language relating to the Lake Level Contingency Plan. The County also provided additional documentation on the history of the release rate.

Thank you for the opportunity to review the federal consistency certification for the proposed Early Site Permit for the North Anna Power Station. If you have questions on these comments, please feel free to call Michael Murphy at (804) 698-4003.

Sincerely,

Richard F. Weeks, Jr.  
Chief Deputy

Enclosures

cc: Andrew K. Zadnik, DGIF  
John Kauffman, DGIF  
Robert S. Munson, DCR  
Susan E. Douglas, VDH-ODW  
Khizar Wasti, VDH-OHHC  
Robert B. Stroube, VDH  
Joseph P. Hassell, DEQ-DWR  
Thomas A. Faha, DEQ-NVRO  
Jeffrey P. Madden, MRC  
Mary T. Stanley, VDOT  
Roger W. Kirchen, DHR  
Alice R. T. Baird, DCR-DCBLA  
Ellie L. Irons, DEQ-OEIR  
Harrison B. Rue, Thomas Jefferson PDC  
Jeffrey Walker, Rappahannock-Rapidan PDC  
Robert Wilson, RADCO PDC  
C. Lee Lintecum, Louisa County  
J. Randall Wheeler, Spotsylvania County  
Frank W. Harksen, Jr., Hanover County  
Ted Coberly, Orange County  
Jim Candeto, Town of Mineral  
Jack Cushing, NRC